USA NATIONAL INNOVATION MARKETPLACE
A Service of
NIST National Institute of Standards and Technology
Manufacturing Extension Partnership

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INTERNATIONAL **INNOVATION NETWORK**

Infinite Chemical Analysis

untrahigh- throughput drug discovery system for pharmaceutical research

High quality, real- time analysis of hundreds of samples simultaneously with 100 times higher throughput than competing microfluidic systems at one tenth the cost.

Annual Sales Forecast for USA *				Innovation Status		Idea
Sales & Marketing Support Level	**Conservative 80% odds of selling**	**Most Likely 50% odds of selling**	**Aggressive 20% odds of selling**	**Development Status**	**Proprietary Protection Status**	**Concept Score**
Ultra Low	$24	$2.4 M	$16.8 M	**1** of 5 In Development	**2** of 5 Patent Pending	**54** 29 is Average
Low Support	$23.5 M	$75.3 M	$208.3 M			
Medium Support	$178.8 M	$511.5 M	$1.3 B			
High Support	$476.6 M	$1.4 B	$3.4 B	**Remaining Time & Cost to First Sale**		
Ultra High	$910.3 M	$2.5 B	$6.5 B	6 mos-1 yr	$100k-$1M	

Infinite Chemical Analysis - *untrahigh- throughput drug discovery system for pharmaceutical research*

Final Decision Maker: *pharmaceutical research departments, centralized medical diagnostics providers, food manufacturing and analysis, environmental and general chemical analysis labs*

This invention is a system for ultrahigh throughput analysis of chemical or biochemical samples. It is designed to process large numbers of samples in parallel and real time; saving reagents and time while providing massive amounts of data. The system is versatile and can be used for a wide range of applications including: drug discovery, blood or urine analysis, food and beverage analysis, and environmental monitoring (water, soil, etc).

The key to this innovation is not what's in it, but what we took out - the optics. The complicated and expensive laser optics typically used for detection are replaced with a simple, 5¢ resistor. This enormous reduction in complexity means that our system can easily be scaled up for simultaneous measurements of practically any number of samples. Published proof- of- concept results with a 16- channel system already demonstrate higher throughput than currently available microfluidic chip- based screening systems, and scale up to 384 channels would provide 100 times higher throughput than competing systems.

In addition, because the system uses electric fields to separate the individual components of an assay sample, it provides very high quality, reproducible data. This means lower rates of false positives and false negatives, and more reliable detection of weakly acting drug compounds.

The simplicity of the system also means that it can be made and sold at a fraction of the cost of the competition, and because it doesn't require expensive fluorescently labeled reagents, the disposables needed to run the system could also be sold at a much lower cost.

$1,000 for one reagent kit

Seeking: *Purchase, Investment, Manufacturing/ R&D*

✓ Email Inventor(s)	✗ Link to Website With More Info	✗ Link to YouTube Video	✓ Inventor(s) Open to Consulting Requests	✗ Agree to use Fair Contract	✓ Invention can be exported

* Consumption sales forecast. Does not include "Random" events or ☐Inventory Fill☐. Forecast is for Year 1 for Large or Year 2 for Small Companies. Forecast should be read as ...☐With Low marketing support there is an 80% odds of achieving sales of at least...

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Report Assumptions and Inventor(s) Commentary

Inventor(s) Assumptions	"Most Likely" Estimate	Confidence	Inventor(s) Commentary Data Source or Basis for Assumptions
# of Possible Final Decision Makers	30,000	30%	total number of: pharmaceutical medical diagnostics food analysis environmental & general analytical chemistry labs
Revenue per First Purchase	$100,000.00	60%	Based on existing commercial comparable products that provide less capability in throughput
% that will Repeat	70%	40%	Initial sale is the analysis unit (capital equipment), most repeats from sales of additional reagents and kits (disposables)
Number of Annual Repeats	4	50%	estimate for repeat purchase is for quarterly purchases of reagents and disposables
Revenue per Repeat Purchase	$130,000.00	50%	based on disposables cost for one analysis system of 4 cents per measurement at a rate of 50,000 measurements per day (1/40 max throughput), 5 days/ week, with quarterly purchasing.
Reseller (Trade) Margin	N.A.	N.A.	
Producer Profit (EBITD)	25%	20%	Cost to manufacture is much lower than competition and performance offered is much higher. Typical margin for pharmaceutical and medicine manufacturing.

Innovation Status			
Development Status	1 of 5 In Development		working prototype implementations have been built and tested in the lab for enzyme activity and inhibition assays, research ongoing for blood, urine, and food/ beverage analysis.
Cost to First Sale (remaining)	$100k-$1M	30%	estimating 3 full time technical staff for one year to develop into product
Time to First Sale (remaining)	6 mos-1 yr	30%	assuming existing company already has all capital equipment and expertise in place
Confidence in Concept Claims made in description		60%	A paper: Ross and Kralj published in Analytical Chemistry, Vol 80, Issue 24, page 9467 (2008) that provides proof of concept data for application to drug screening assays.
Proprietary Protection Status	2 of 5 Patent Pending		non- provisional patent applications submitted in 2007 and 2009.

Concept Score & Diagnostics

MERWYN
Merwyn Concept Score
With Confidence Bands

Pessimistic 80% odds of at Least	Most Likely 50% odds of at Least	Optimistic 20% odds of at Least
40%	54%	67%

Concept Diagnostics	Red	Yellow	Green
Percentile Group	Bottom 40%	Middle 40%	Top 20%
Overt Benefit		🟡	
Reason to Believe	🔴		
Dramatic Difference		🟡	

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Inventor(s) Sales Goals			
Minimum Goal	$0.4 M	**Current GOAL**	$2 M

Photo can go here

Inventor(s) Commentary:

CURRENT SALES FORECAST

Sales & Marketing Support Level	Conservative 80% odds of selling	Most Likely 50% odds of selling	Aggressive 20% odds of selling
Ultra Low	$24	$2.4 M	$16.8 M
Low Support	$23.5 M	$75.3 M	$208.3 M
Medium Support	$178.8 M	$511.5 M	$1.3 B
High Support	$476.6 M	$1.4 B	$3.4 B
Ultra High	$910.3 M	$2.5 B	$6.5 B

If MARKETING CONCEPT Improved
(Increase Concept Score by +20 Points)

Sales & Marketing Support Level	Conservative 80% odds of selling	Most Likely 50% odds of selling	Aggressive 20% odds of selling
Ultra Low	$34	$3.3 M	$22.8 M
Low Support	$32.7 M	$103.9 M	$285.7 M
Medium Support	$247.3 M	$710.0 M	$1.8 B
High Support	$659.0 M	$1.9 B	$4.7 B
Ultra High	$1.3 B	$3.5 B	$8.9 B

If PRODUCT/ SERVICE Improved
(Increase Repeat Rate & Number of Repeats by 30% and Revenue Per Purchase 20%)

Sales & Marketing Support Level	Conservative 80% odds of selling	Most Likely 50% odds of selling	Aggressive 20% odds of selling
Ultra Low	$44	$4.1 M	$32.7 M
Low Support	$40.0 M	$139.2 M	$406.8 M
Medium Support	$294.5 M	$953.2 M	$2.5 B
High Support	$798.7 M	$2.6 B	$6.8 B
Ultra High	$1.5 B	$4.7 B	$12.4 B

If MARKETING CONCEPT and PRODUCT/ SERVICE Improved
(Increase Concept +20 Points, Repeat Rate & Number of repeats by 30% and Revenue per purchase 20%)

Sales & Marketing Support Level	Conservative 80% odds of selling	Most Likely 50% odds of selling	Aggressive 20% odds of selling
Ultra Low	$60	$5.5 M	$43.8 M
Low Support	$53.4 M	$184.8 M	$560.5 M
Medium Support	$407.8 M	$1.3 B	$3.5 B
High Support	$1.1 B	$3.7 B	$9.5 B
Ultra High	$2.0 B	$6.7 B	$17.0 B

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Fair Market Royalty (%)

	Conservative - 80% Odds Royalty Percentage		Most Likely - 50% Odds Royalty Percentage		Aggressive - 20% Odds Royalty Percentage
At CURRENT State & Status	2.5%		3.5%		4.6%

Sales & Marketing Support Level	Annual Inventor Royalty Revenue			3 Year Value to Inventor If 50% Odds
	80% Odds	**50% Odds**	**20% Odds**	
Ultra Low Support	$78,000	$210,000	$400,000	$620,000
Low Support	$1.3 M	$3.1 M	$5.6 M	$9.3 M
Medium Support	$8.7 M	$20.0 M	$35.2 M	$60.1 M
High Support	$22.6 M	$53.3 M	$93.5 M	$159.9 M
Ultra High Support	$42.9 M	$100.4 M	$177.3 M	$301.2 M

Sales & Marketing Support Level Assumptions

Sales & Marketing Support Level	Sample Numbers		% Aware x % Distribution (Aware & Able)	Inventor Estimate of Odds
	% Distribution	% Awareness		
Ultra Low Support (Word of Mouth)	5%	3%	0.2%	60%
Low Support (Small Company)	20%	10%	2%	40%
Medium Support (Medium Sized Company)	50%	25%	13%	20%
High Support (Large Company)	75%	45%	34%	10%
Ultra High Support (Mega or Niche)	90%	70%	63%	10%

Graph of EQUIVALENT (Awareness x Distribution) Combinations

AWARENESS (% of Decision Makers with 3+ Contacts)

DISTRIBUTION (% of Decision Makers Easily Able to Buy)
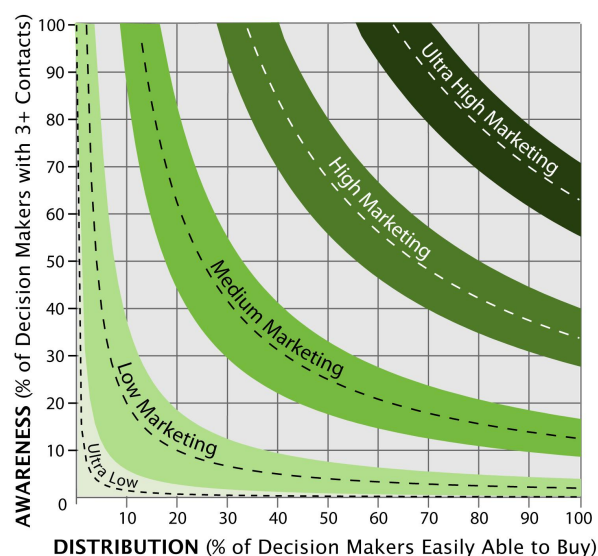
NAICS Industry Codes For This Invention
32541 - Pharmaceutical and Medicine Manufacturing
54171 - Research and Development in the Physical, Engineering, and Life Sciences

Patent Numbers that apply to this Product/ Service
11/926,418

Inventor(s) PEDIGREE

Years EXPERIENCE in related industry	9
GRANTED Patents	4
Licensing Deals SIGNED	0
Innovations that have SHIPPED	0

For USA Patents: Utility Patent = 7 digit number, Design Patent starts with D, Planet Patent starts with PP. Provisional Application "61/ xxx,xxx", Non provisional application "12/ xxx,xxx", Design patent application "29/ xxx,xxx"

CAUTION: This Merwyn Business Simulation Research Report includes no warranty or guarantee. Results and opinions should be considered rough and directional in nature. This is because the report is based upon inventor- supplied data and simplified modeling methods. If you are looking to invest, distribute, purchase or become involved with this innovation, in any way, we strongly urge you to validate the inventor data and sales forecasts BEFORE committing yourself or your resources. Merwyn Research, Inc. shall not be responsible for any liability or damages arising out of the failure to perform such investigation and validation. Changes in the concept description, product, pricing, or input assumptions will almost certainly change results.

Additional Forecasts for Other Countries

Annual Sales - Probability Forecast - for Canada 🇨🇦

Sales & Marketing Support Level	Conservative 80% odds of selling	Most Likely 50% odds of selling	Aggressive 20% odds of selling
Ultra Low	$3	$270,000	$1.9 M
Low Support	$2.6 M	$8.3 M	$23.1 M
Medium Support	$19.8 M	$56.7 M	$143.3 M
High Support	$52.8 M	$150.5 M	$379.4 M
Ultra High	$100.9 M	$282.5 M	$717.6 M

Assumptions: exchange rate of $1.00 US = $1.01083 CAN; population of 33,390,141

Annual Sales - Probability Forecast - for United Kingdom 🇬🇧

Sales & Marketing Support Level	Conservative 80% odds of selling	Most Likely 50% odds of selling	Aggressive 20% odds of selling
Ultra Low	£2	£240,000	£1.7 M
Low Support	£2.4 M	£7.6 M	£20.9 M
Medium Support	£18.0 M	£51.5 M	£130.1 M
High Support	£47.9 M	£136.6 M	£344.4 M
Ultra High	£91.6 M	£256.4 M	£651.3 M

Assumptions: exchange rate of $1.00 US = £0.50458 UK; population of 60,776,238